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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/973,201 | 10/09/2001 | David Koellisch | TRW(RG)5742 | 5797 |

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EXAMINER

SMITH, JULIE KNECHT

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/973,201 | KOELLISCH, DAVID |
| Examiner | Art Unit | |
| Julie K Smith | 3682 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 February 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-10 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 09 October 2001 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (JP 410258694A) in view of Honda (JP 2000016304).

Regarding claims 1 and 4, Kim discloses a steering column (see fig. 1) comprising a first U-joint (103) connectable with a steering wheel of a vehicle, a first shaft (101) pivotally attached to said first U-joint and rotatable about a longitudinal axis of said first shaft upon rotation of said first U-joint; a second shaft (102) drivingly connected to said first shaft with said first shaft permitting relative axial movement of said first and second shafts while maintaining a rotary drive connection between said first and second shafts, a second U-joint (104) pivotally attached to said second shaft and connectable with a steering mechanism of a vehicle; said first shaft comprising first and second shaft parts and a quick disconnect joint (105) between said first and second shaft parts permitting disconnection of said first and second shaft parts and pivoting of said first shaft part relative to said first U-joint to a first out of the way position and pivoting of said second shaft part relative to said second U-joint to a second out of the way position (see fig. 5). Kim does not disclose a slip joint connection between the first and second shafts. However,

Honda teaches a steering shaft having first and second shafts (4), said second shaft extending into said first tubular shaft, and being connected by a slip joint connection (see fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the steering column of Kim with the slip joint connection, as taught by Honda, so as to provide means to adjust the position of the steering shaft, which would allow the steering column to be more easily moved out of the way so that the area behind the firewall is more accessible.

Regarding claim 2, Kim discloses a first shaft part (101) including a first surface extending parallel to said longitudinal axis of said first shaft part engageable with a second surface on said second shaft part (102) extending parallel to said first surface.

Regarding claim 3 and 5, Kim discloses a quick disconnect joint including a fastener (105) extending through said first and second surfaces.

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Honda, as applied to claims 1-5 above, and further in view of DuRocher et al. (5,090,730). Although Kim does not disclose bolt and nut connection for the fastening device (105), DuRocher et al. teaches a bolt and nut used to fasten a first and second shaft (see fig. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the rivets used by Kim with bolt and nut fasteners so as to provide a removable attachment means for the quick disconnect joint on the steering column as it is old and well known in the art to use bolt and nuts for fastening purposes.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Honda, as applied to claims 1-5 above, and further in view of Fosse et al. (Publication 2001/0020782). Kim discloses a steering column, as claimed, but does not explicitly disclose the location of the column within the vehicle. However, Fosse et al. teaches a first U-joint (9) located at least in part on a side of a firewall (7) opposite a passenger compartment of a vehicle and a first shaft (3) being at least in part on a side of a firewall (7) opposite a passenger compartment of a vehicle.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the steering column of Kim in the location taught by Fosse et al. since it is old and well known in the art to place steering column in on the opposite side of a firewall in a vehicle.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Honda as applied to claims 1-5 above, and further in view of Hancock (5,074,161). The reference combination set forth above discloses a steering column assembly, as claimed, but does not disclose a quick disconnect joint, having a fastener that is not destroyed during the collision process. However, Hancock teaches a quick disconnect joint for a vehicle steering column having fasteners that are not destroyed during a collision.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the assembly of the reference combination set forth above with the teachings of Hancock so as to provide a fastener arrangement that is not destroyed during a

collision so that the fasteners may be reconnected after collision while minimizing the damage done to the vehicle.

Response to Arguments

6. Applicant's arguments filed 2/24/03 have been fully considered but they are not persuasive.

Regarding claim 1, the Applicant argues that combining the slip joint of Honda with the steering column assembly of Kim would not allow the column to fracture. However, it is the opinion of the Examiner that although the slip joint of Honda was not intended to be used in a collision, it still must be able to withstand a predetermined load in order to maintain its position. Adding a slip joint to the column of Kim, and designing it to withstand a predetermined load would allow the slip joint to maintain its position until after the fracture of the quick disconnect joint.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703-308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

JKS
jks
May 18, 2003


DAVID A. BUCCI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600